

REMARKS

Reconsideration and allowance are respectfully requested.

Claims 1-6 and 27-40 are pending; they are directed to the elected invention.

Nonelected claims 7-26 were withdrawn from consideration by the Examiner; Applicant cancels the withdrawn claims without prejudice to his future prosecution of that subject matter.

35 U.S.C. 102 – Novelty

A claim is anticipated only if each and every limitation as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is claimed. See *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claims 1-3 and 5 were rejected under Section 102(b) as allegedly anticipated by Shi et al. (J. Clin. Invest. 98:1979-1990, 1996). Applicant traverses.

Shi discloses apoptosis of endothelial cells in AIDS patients, but not in patients with Alzheimer's disease. In the abstract on page 1979, "TUNEL-positive neurons and astrocytes were frequently detected in seven patients with Alzheimer's disease or abundant senile plaques." Shi's description of apoptosis in endothelial cells is confined in all cases to patients not affected by Alzheimer's disease. This fact is shown most clearly in Table I on page 1985 where apoptosis of endothelial cells in patients 21 to 24 was not detected. All apoptosis of endothelial cells was detected in AIDS patients.

Dorland's Illustrated Medical Dictionary (Saunders, 2004) defines endothelium as "the layer of epithelial cells that lines the cavities of the heart, the lumina of blood and lymph vessels, and the serous cavities of the body; it originates from the mesoderm." In particular, endothelial cells are found in vasculature such as in the brain. As shown in the attached, the vessel wall is comprised of endothelial cells, smooth muscle cells, and fibroblast. But neurons and astrocytes are not epithelial cells. Neurons and astrocytes are derived from a different germ layer: the ectoderm (or neural crest/neuroectoderm).

Thus, apoptosis in neurons and astrocytes as detected in Shi does not teach or suggest inappropriate senescence in endothelium or cells derived from endothelium.

Therefore, Shi does not anticipate the claimed invention because the cited document does not teach “inappropriate senescence and/or defective angiogenesis in at least endothelium of the subject or cells derived from endothelium of the subject” as required by claim 1. Applicant submits that this feature of claim 1 is sufficient to distinguish over the cited document so any other incorrect allegations about its disclosure are not disputed here, but the opportunity to dispute them in the future is reserved.

Claims 1-3 and 6 were rejected under Section 102(b) as allegedly anticipated by Partanen et al. (Cancer 86:2406-2412, 1999) as evidenced by Cassel et al. (*Functional Neurobiology of Aging*, pp. 31-50, 2001). Applicant traverses.

Partanen does not teach or suggest “a subject affected by a neurodegenerative disorder or another cognitive impairment” as required by claim 1. This is clear from pages 3-4 of the Action. Therefore, Partanen is not anticipatory because the cited document does not teach all limitations of claim 1. Applicant submits that the subject of claim 1 is sufficient to distinguish over the cited document so any other incorrect allegations about its disclosure are not disputed here, but the opportunity to dispute them in the future is reserved.

Claims 1-4 and 6 were rejected under Section 102(b) as allegedly anticipated by Mulliken (Surgery 92:348-353, 1982) as evidenced by Cassel et al. Applicant traverses.

Mulliken does not teach or suggest “a subject affected by a neurodegenerative disorder or another cognitive impairment” as required by claim 1. This is clear from page 4 of the Action. Therefore, Mulliken is not anticipatory because the cited document does not teach all limitations of claim 1. Applicant submits that the subject of claim 1 is sufficient to distinguish over the cited document so any other incorrect allegations about its disclosure are not disputed here, but the opportunity to dispute them in the future is reserved.

Applicant requests withdrawal of the Section 102 rejections because the cited documents do not teach or suggest all limitations of the claims.

It is submitted that having successfully addressed the pending rejections, the pending claims are in condition for allowance and an early Notice of Allowance is earnestly solicited. The Examiner is invited to contact the undersigned if any further information is required.

Respectfully submitted,

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